

# The early days of the flexible gastroscope in the UK

Seventy five years ago, a landmark paper was published in the *British Journal of Surgery* (Taylor, 1937), which introduced gastric endoscopy in this country. The author, Hermon Taylor, was a young surgical first assistant at the London Hospital. In 1877, Max Nitze, in Vienna, had invented the first practical cystoscope using a water-cooled incandescent wire for illumination and direct vision. He used this also to examine the inside of the stomach – but only in the cadaver. In 1880, Thomas Edison, in the USA, invented the electric light bulb. Nitze promptly had this modified into a tiny bulb which he incorporated into the first effective cystoscope in 1887.

The invention of a completely new optical system which incorporated multiple lenses enabled a flexible telescope to be constructed by Wolf in Berlin, and this enabled Rudolph Schindler, in Heidelberg, to develop the first practical flexible gastroscope in 1932. This apparatus had, at its proximal end, an eye piece, the light source and a bulb for inflating the stomach with air. The distal end had a sponge rubber tip, the tiny lamp bulb and the objective window.

A serious disadvantage of this instrument was its inability to be held away from the mucosal surface of the stomach. Hermon Taylor's important modification of this instrument was to place a balloon at its distal end. When this was inflated, it lifted the observation window away from the mucosal surface of the stomach, thus greatly improving the view. Taylor's technique was to premedicate the patient with omnopon and scopolamine and anaesthetize the mouth and throat with a local anaesthetic spray. The patient was positioned on the left side on a tipping operating table, with the head extended and supported by an assistant. The 'scope was not pushed down, but rather swallowed by the patient; 'under no circumstances

was force to be used'. He claimed that the one great danger of gastroscopy, perforation of the oesophagus with, often lethal, mediastinitis, was eliminated by the flexibility of the instrument. (Perforation, by the way, usually occurred in the cervical part of the oesophagus, where the instrument pressed posteriorly against the lower cervical vertebrae, especially when these were arthritic.)

In his paper, beautifully illustrated with coloured endoscopy views, Taylor tabulates his experience with 60 gastroscopies, all done when there had been a definite indication for this procedure. Among his patients were three cases with peptic ulcer symptoms, two having undergone exploratory laparotomy; all were shown to have gastritis only. Sixteen patients had a possible stomal ulcer following gastrojejunostomy, at that time a popular operation for duodenal ulcer. The stoma was clearly visualized in 14 of these patients – in six of the patients an ulcer was clearly seen, and in eight it was definitely excluded. Four patients with peptic symptoms had had a normal barium meal; three were found to have a posterior wall gastric ulcer and the fourth a gastric carcinoma. Ten patients with a query carcinoma on barium meal were examined. Seven were found to be normal while the remaining three had benign gastric ulcers. Finally, four patients with a doubtful carcinoma on X-ray were all found to have a tumour clearly visible on endoscopy.

The Hermon Taylor gastroscope was used fairly extensively at centres throughout the UK, but it was an undoubtedly an uncomfortable and risky procedure. An expert in its use was Norman Tanner, at St James' Hospital, Balham, who ran a weekly endoscopy clinic. I was his senior house officer in 1952 and carried out 40 of these procedures, but I was never happy using this instrument and gave it up once I left the unit.

Hermon Taylor was born in 1905. He qualified from Cambridge and St. Bartholomew's Hospital in 1929 and passed his Fellowship of the Royal College

of Surgeons the following year. He visited Schindler in Heidelberg in 1933 and purchased a Wolf Schindler gastroscope. The Nazis had just come in to power in Germany and forbade the export of this invention; Taylor slipped the endoscope down his trouser leg and limped through customs. Surely this tells us a good deal about the character of this surgeon. In 1934 he was appointed first assistant to Sir James Walton at the London Hospital and began his investigations into the use and modification of his new machine; he was promoted to the surgical staff at the London in 1939.

As you might imagine, he was an innovative surgeon, as well as being technically brilliant. In those days (and indeed when I was a house surgeon in the 1940s), poor old gentlemen, in bad general condition, were often left with a permanent suprapubic catheter after admission with retention of urine. Taylor devised a simple second stage prostatectomy, packing the prostatic bed to prevent bleeding, and successfully cleared his ward of these patients. Before the invention of a practical laparoscope, Taylor used an ordinary cystoscope to examine the peritoneal cavity of patients with ascites, and was able to demonstrate hepatic and omental metastases by this simple technique. Against much opposition, he showed that simple cysts of the breast could be treated safely and effectively by aspiration in the outpatient clinic, instead of having surgical excision. In the 1950s, heparin now being available as an effective anticoagulant, he pioneered extensive endarterectomies for patients with ischaemic limbs as result of arteriosclerosis.

Hermon Taylor died in 2001, in his 96th year. His eldest son became Professor of Surgery at St George's; a number of readers of this article will no doubt have trained under him. **BJHM**

*Conflict of interest: none.*

Taylor H (1937) Gastroscopy, its history, technique and clinical value, with a report on 60 cases. *Br J Surg* 24: 469–500

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